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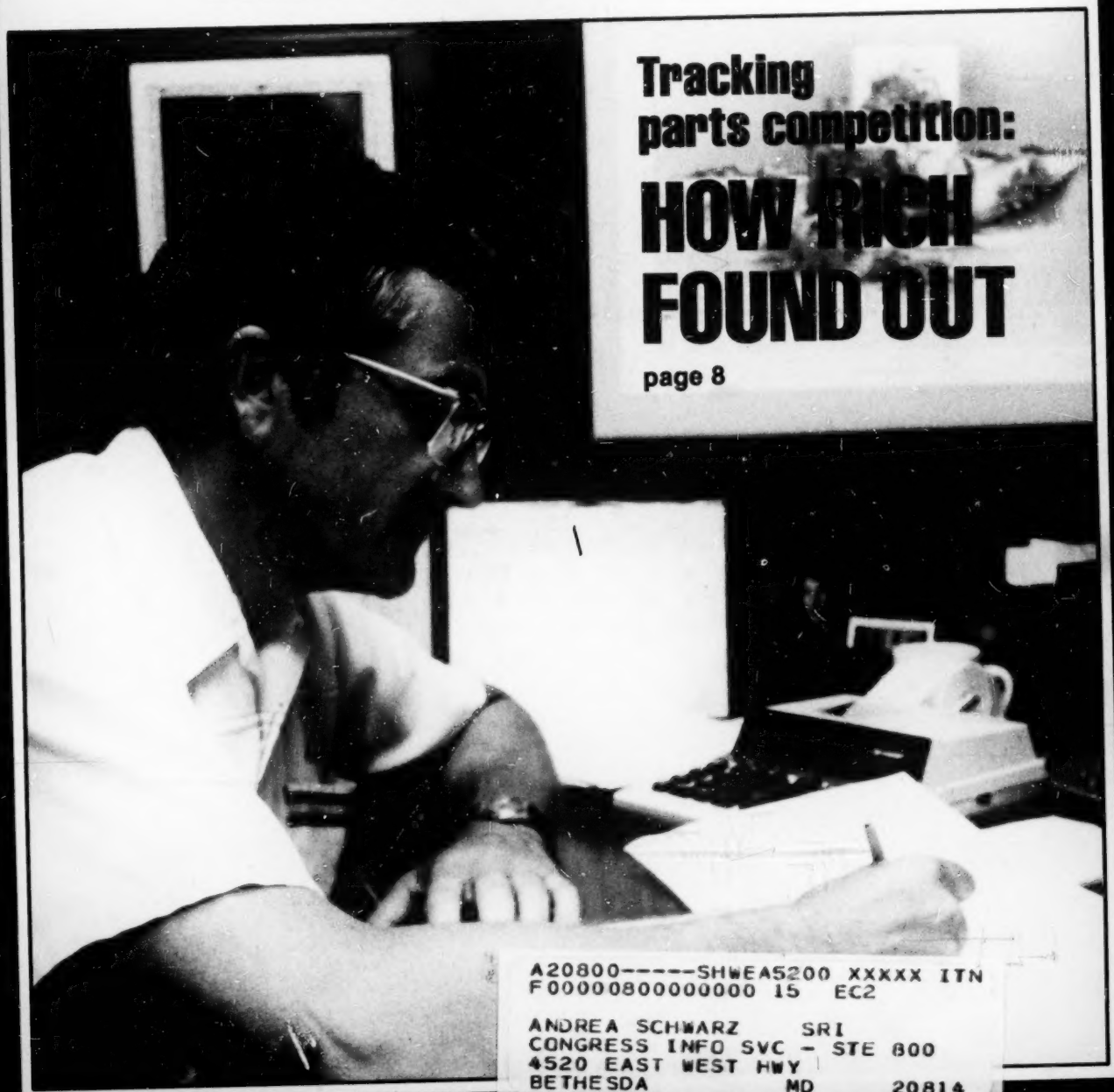
I&T 100 YEARS OF LEADERSHIP 1886-1986

The business magazine of the farm and industrial equipment industry SEPTEMBER 1986

Dealers on Telemarketing page 22



Tracking parts competition: HOW RICH FOUND OUT

page 8

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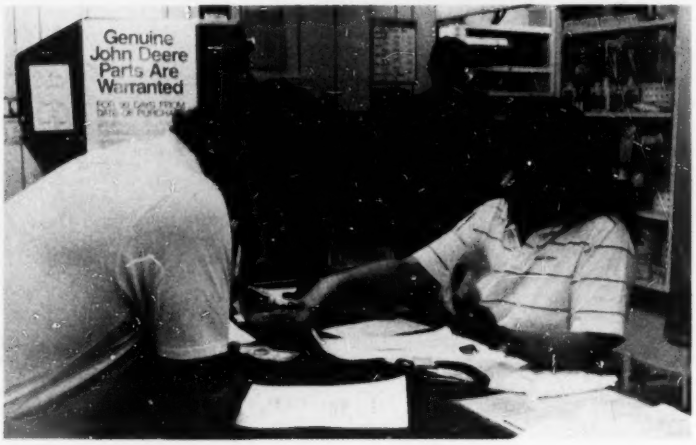
I&T 100 YEARS OF LEADERSHIP 1886-1986

Implement & Tractor

The business magazine of the farm and industrial equipment industry.

September 1986 • Vol. 101 • No. 11



page 8

8: **Rich Streitmatter's Parts Survey.** Illinois dealer finds out where and why his equipment customers buy certain parts. Result: He now knows how to focus his parts marketing efforts—and sales are up!

12: **Shops Did Better in 1985, but...**Average loss among service departments in the NFPEDA Cost of Doing Business study was still $52,000.

16: **Today's Tillage: It's Revolutionary Evolution!** Seeking survival, today's farmers are adapting profit-enhancing ways of working the soil—without waiting for much in the way of proof.

22: **Dealers' Verdict on Telemarketing: Generally Good.** I&T's For Dealers Only survey asked dealers to comment on their experiences or perceptions about this factory-to-dealership approach.

28: **It's Not Easy Being Clean.** But it's sure important! Second in a series on the subject of hydraulic contaminants.

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Update

June's Plus Signs Fade in July

While June's retail sales report from the Farm & Industrial Equipment Institute had shown increases in sales of two-wheel-drive tractors over 100 hp, as well as the usual good news in the under-40-hp market, July reversed those positive trends. Despite a pickup in four-wheel-drive units in July, total tractor volume was down.

For the second consecutive month, sales of forage harvesters and mower-conditioners were up.

Unit Retail Sales

	July			January-July		
	1986	1985	Pct. Change	1986	1985	Pct. Change
Farm Wheel Tractors:						
2-wheel drive						
Under 40 hp	4,739	5,004	- 5.3	40,339	37,541	+ 7.5
40-99 hp	2,362	2,917	-19.0	18,566	24,558	-24.4
100-139 hp	177	491	-64.0	3,417	5,250	-34.9
Over 140 hp	304	671	-54.7	6,349	6,471	- 1.9
Total 2-wheel drive	**7,582**	**9,083**	**-16.5**	**68,671**	**73,820**	**- 7.0**
4-wheel drive						
Under 200 hp	59	41	+43.9	349	527	-33.8
Over 200 hp	126	105	+20.0	792	1,022	-22.5
Total 4-wheel drive	**185**	**146**	**+26.7**	**1,141**	**1,549**	**-26.3**
Total All Tractors	**7,767**	**9,229**	**-15.8**	**69,812**	**75,369**	**- 7.4**
S-P Combines	691	564	+22.5	2,456	2,950	-16.7
Balers (under 200-lb. bales)	1,106	1,259	-12.2	3,710	5,011	-26.0
Forage Harvesters (shear-bar type)	250	172	+45.3	892	1,069	-16.6
Mower-Conditioners	1,731	1,659	+ 4.3	7,231	7,917	- 8.7

Exports Down, Imports Up, In First Half of 1986

U.S. farm equipment exports in the first half of 1986 were down 15 per cent at $836 million and imports went up by 6 per cent to $877 million, compared with the first six months of 1985.

Exports: Major market declines included Mexico (down 63 per cent to $47 million), Canada (down 7 per cent to $396 million), Saudi Arabia (down 55 per cent to $24 million) and Australia (down 61 per cent to $27 million).

Improved major markets included West Germany (up 50 per cent to $38 million), Venezuela (up 170 per cent to $29 million), Britain (up 13 per cent to $34 million) and France (up 35 per cent to $44 million).

Imports: Major increases came from West Germany (up 16 per cent to $137 million), Britain (up 18 per cent to $129 million), France (up 19 per cent to $43 million) and Japan (up 30 per cent to $233 million).

Principal declines came from Canada (down 22 per cent to $178 million), Italy (down 12 per cent to $63 million) and the Netherlands (down 20 per cent to $15 million).

Wholesalers Plan 'Tabletop' Product Review in Vegas

The Farm Equipment Wholesalers Assn. will sponsor a first-time "Product Review Showcase" Oct. 19 in conjunction with its annual convention at Bally's Grand Hotel, Las Vegas, Nev.

FEWA's convention is held concurrently with that of the Farm Equipment Mfrs. Assn. at the same facility.

According to Thomas Irwin, executive vice-president, booths are available for manufacturers and vendors of products of interest to short-line wholesalers and manufacturers.

FEWA is headquartered at Box 1347, Iowa City, Ia. 52240, telephone 319/354-5156.

Briefly...

Melroe Co., Fargo, N.D., will import Komatsu mini-excavators for sale in the U.S. under the Bobcat trademark through existing Melroe outlets.

Hiniker Co., Mankato, Minn., has acquired the trademarks, patents and finished inventory of Fox Brady, Appleton, Wis.

The Agricultural Driveline Mfrs. Assn. has named Joel Martin (Walterscheid) as its president with Bennett Reak (Weasler Engineering) as vice-president and Gerald J. Brooks (Rockwell International) as treasurer.

Headquartered at 3 First National Plaza, No. 5200, Chicago, Ill. 60602, ADMA is a trade group formed "to promote safety in the design, construction and use of driveline components used in the farming industry."

Inventory Watch

What's happening to stockpiles in relation to sales.

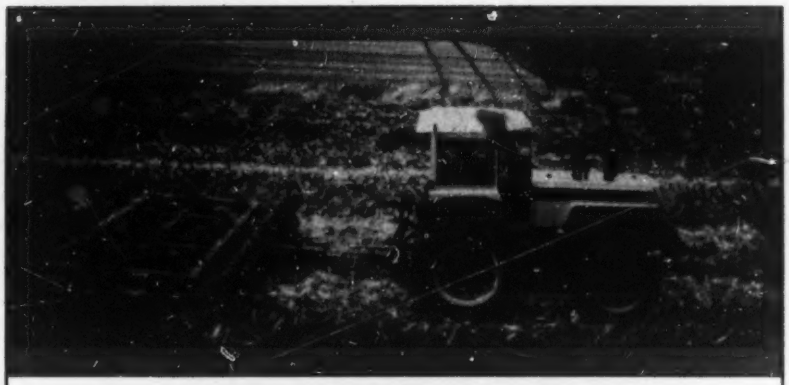
	Inventory Levels							12-Month Sales,
Equipment	June 30, 1985	Jan. 31, 1986	Feb. 28, 1986	Mar. 31, 1986	April 30, 1986	May 31, 1986	June 30, 1986	July 1, 1985 Jun. 30, 1986
Tractors								
Under 40 hp	37,814	51,537	56,446	58,306	55,947	54,041	52,089	60,266
40-99 hp	28,024	25,480	25,929	27,136	27,457	27,319	25,751	32,400
100 hp and over	25,219	21,204	20,918	20,509	19,510	18,400	16,247	16,435
Four-wheel drive	4,185	2,719	2,623	2,612	2,537	2,514	2,513	2,467
Total Tractors	**95,242**	**100,940**	**105,916**	**108,563**	**105,451**	**102,274**	**96,600**	**111,568**
S-P Combines	10,299	6,373	6,342	6,744	7,054	7,253	7,323	7,781

Source: Farm & Industrial Equipment Institute

Today's Tillage: It's Revolutionary Evolution!

Farmers, fighting to survive and looking for profit-boosting approaches, are more inclined than ever to try new tillage ideas. But successful moves to new tillage systems require the best in the way of farmer management skills. First of two articles.

By Frank Buckingham



How Far We've Come

(millions of acres worked)

Crop	Year	No-Till	Minimum Till	Conventional Tillage
Corn	1972	2.069	10.591	58.841
	1979	3.823	22.500	53.734
	1986E	6.472	25.866	46.631
Soybeans	1972	.867	5.073	37.920
	1979	2.202	14.925	47.874
	1986E	4.321	17.828	40.191
Small Grains	1974	.222	15.400	67.468
	1979	.763	24.511	67.282
	1986E	3.204	30.680	54.597

Source: 1985-86 Tillage Practices survey by No-Till Farmer newsletter, Box 624, Brookfield, WI 53008, telephone 414/782-0604.

■COUNTLESS people in the last two decades have predicted that the moldboard plow would soon pass into oblivion. Far from it. The moldboard plow remains the most widely used primary tillage tool in the country.

Its use has declined dramatically in recent years, and unit plow sales have dropped. But, some tillage experts believe *total plowing capacity on farms* remains near the all-time high, even though some plow bottoms may be getting a bit rusty. They say the average cutting width of plows sold today is probably two or three times bigger than the typical ones from the glory days of plow sales, so plowing *capacity* has remained more or less constant.

Though most current tillage implements and practices evolved from earlier machines and techniques, their current rate of adoption by farmers is almost revolutionary compared to past changes. In fact, few industries can match American agriculture's change-a-minute pace: the fluctuations in commodity prices, announcements of new farming methods, techniques, equipment, pesticides and other inputs, plus the endless frustrations of simultaneously dealing with equally unpredictable weather and government bureaucracies.

Because they're fighting for economic survival, and agricultural

(More...)

Today's Tillage

(continued)

research budgets have shrunk in recent years, many farmers no longer wait until new ideas have been fully studied and proven experimentally before adapting, on their own farms, any of them that might improve their profitability. If equipment to implement a new practice is unavailable, they simply modify and adapt existing machines, or design and build their own.

Today's farmers are as concerned about soil erosion and environmental pollution as anyone—more than many people give them credit for. But the primary driving force behind this tillage revolution is hard-nosed economics, and anyone in the equipment business who ignores that fact does so at his own peril. Emotional appeals for soil and water conservation may be heard, and ignored, unless pleas are backed by hard evidence that such efforts will also increase net farm income. Farmers are looking for or developing their own methods and equipment to save fuel, time, soil, water and most of all, money. Any operations that cannot pay for themselves in higher yields, or provide other identifiable economic benefits, are being eliminated.

You've got to have a system

Because various tillage tools individually or in different combinations can be operated to produce widely differing results, the goal established for a tillage system is more important than implements chosen for that system. For example, conservation tillage is defined as any system that leaves at least 30 per cent of the soil covered by residue from the previous crop after the new crop is planted—regardless of equipment used. Thus defined, conservation tillage is a better-understood term than reduced tillage or minimum tillage.

Most conservation tillage systems include a chisel plow or disk harrow for primary tillage, and secondary tillage (if any) by field cultivators or disk harrows—so long as 30 per cent of the soil remains covered by crop residue. But, as defined, conservation tillage includes no-till, slot-planting, strip-till, ridge-till and other tillage/planting methods that leave the required amount of residue cover. (Early attempts to define conservation tillage included pounds of various crop residues to be retained on the soil surface. However, precise quantities of remaining residue are difficult to measure or estimate, whereas the per cent of soil coverage is more easily determined.)

Where do we stand?

The National Conservation Tillage Information Center (CTIC), Fort Wayne, Ind., reports that approximately one-third of crop acres nationwide are now planted with conservation tillage practices. They also say that more than 12 million acres of Iowa cropland (more acres than any other state, but seventh in percentage of cropland), including nearly half the state's corn and soybean acreage, was planted with conservation tillage in 1985. That's a 20 per cent increase from 1984 and 1983. But, 77 per cent of Delaware's cropland is planted with conservation tillage, the highest percentage in the country.

According to the *1985-1986 Tillage Practices Survey* by *No-Till Farmer* magazine, more than 19 million U.S. crop acres were no-till planted in 1986, a 6.9 per cent increase. This includes about 1.1 million acres of forage and pasture, small grain on 3.2 million acres, 4.3 million soybean acres, corn on 6.5 million acres, plus lesser amounts of cotton, vegetables and other crops.

The report adds, *"The minimum tillage acreage is expected to actually drop by 1.4 per cent (to 85.6 million acres from 86.9 million acres in 1985)—the first time this has happened in many years."* But the survey predicted that combined no-till and minimum-till acreage would be about the same for 1985 and 1986.

Illinois growers planned to no-till almost 1.9 million acres in 1986, and five other states expected to top the million-acre no-till level: Kentucky, Ohio, Missouri, Indiana and North Carolina. (The full state-by-state, crop-by-crop survey report on no-till, minimum till and conventional tillage acres is available for $100 from *No-Till Farmer,* Box 624, Brookfield, WI 53008.)

A CTIC survey indicated that ridge-till acreage jumped 45 per cent from 1984 to 1985, and *No-Till Farmer* projected a 20.3 per cent increase in ridge-till for 1986. Leading ridge-till states are Nebraska, Minnesota, Iowa and Illinois.

For years, the Buffalo till-planter from Fleischer Mfg. *was* the ridge-till equipment market. But, farmers wanting to ridge-till adapted and built equipment, until, in a customer-driven move, other manufacturers entered the market with planter adaptations, guidance systems, cultivators and other tools.

How can they afford it?

Farmers are pushing sharp pencils these days and many find they can't afford not to change. Some who

(Continued on page 40)

Ridge Tillage, 1986

Crop	Acres Worked
Corn	1,589,148
Soybeans	663,516
Double-Cropped Beans	4,655
Grain Sorghum	97,132
Small Vegetables	8,570
Grains	10,464

Source: 1985-86 Tillage Practices survey by No-Till Farmer newsletter, Box 624, Brookfield, WI 53008, telephone 414/782-0604.

FDO Survey Report

Telemarketing Verdict: Generally Good

By Scott Nesbitt

■TELEMARKETING between dealers and their manufacturers seems fairly well accepted, but dealers see some need for fine-tuning and occasional contact by a living human being, at least now and then.

"Better information in shorter wait time. Less time wasted...but I miss the local news," commented a Massey-Ferguson dealer who was among 23 dealers who were on telemarketing when the survey appeared in the May, 1986 I&T.

"Don't like it. You gain more by personal contact at least once in a while," wrote a White dealer who's on the system.

A dealer who doesn't have telemarketing didn't pull his punches: "If we must go on telemarketing, we would cancel. We can't transact business with *our* retail customers on the telephone."

"The day it is mandated, I quit!" wrote another dealer in the group of 10 respondents not on telemarketing.

Generally, the dealers on telemarketing tended to support it, as evidenced by their responses to the statement "If direct contact is adopted, want to keep telemarketing also." Seven strongly agreed, 11 agreed, and four others were neutral, disagreed or strongly disagreed.

Eleven also agreed, and three strongly agreed, with the statement, "Telemarketing representatives usually have sufficient training, access to information." Three were neutral to that, four disagreed, and none strongly disagreed.

For those who like such things, there's a box score with this story showing how the dealers responded to other statements included in the survey.

Dealing with reps

The dealers who have telemarketing had mixed feelings about the value of actual people visiting the dealership on behalf of the factory. Generally, they like the phone service because it put them in touch with factory people who had facts at hand.

"I am undecided about telemarketing, but fellows on the phone seem to know their business," said a Massey Combines Corp. dealer.

Another dealer praised the "up-to-date service information; better idea on current programs and promos," but another said, "You can always find the telemarket person, but it can be harder to fix service problems."

If some dealers don't particularly like their telephone rep, they apparently won't have to worry much about a personal visit anyway. Twelve of the 23 said they never or very seldom see the rep in person, while another six said there was a visit once a year. Three saw their rep once a month, one saw his every six months. And one dealer saw his rep bi-weekly.

Nor do the phones from the factory ring all that much. Seven dealers receive weekly calls, eight get monthly calls, and the others fell into time periods that translate to very seldom or you-never-know.

Three of the dealers seem to be real talkers, with the average telemarket call lasting 10 to 20 minutes. For the others, it was under 10 minutes of phone time.

Lengthy thoughts

One dealer took the trouble to send I&T a three-page letter about the subject, and using the same letter to take shots at some manufacturers' policies, which he sees as punishing dealers who pay cash rather than extending their goods on seemingly perpetual terms and "renew one unit, if you put an extra one in stock" programs.

That dealer would like to see his factory telemarketers work when he does—on weekends.

"The disadvantage is that on Saturdays, Sundays and holidays, we no longer have anyone we can call to locate inventory," he wrote.

"Unfortunately, I would guess 30 to 40 per cent of the new sales are going to weekend farmers with a full time job in town.

"I have had them (the factory) take up to seven or eight days to locate a piece of equipment. When you have somebody ready to buy, that is too much time!!"

The advantage he saw was that during working hours, he can usually get someone at the factory to find inventory he needs.

Another dealer summed up his feelings, which seem to match the motives factories have for converting to telemarketing in the first place:

"Contact more people in shorter time; cost efficient; save customers' time and money. Opens doors for wholegoods sales." □

Dealers React to Telemarketing Statements

(I&T asked dealers in our May issue to indicate how they felt about these statements. Numbers indicate individual dealer answers.)

	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Telemarketing has helped my business	7	3	6	3	4
Prefer telemarketing to traditional methods of contact	1	8	4	5	5
Will go to direct contact, drop telemarketing if offered	4	6	4	7	1
If direct contact is adopted, want to keep telemarketing also	7	11	1	2	1
Telemarketing is good, but I'd benefit from more personal contact	6	7	5	3	1
Telemarketing representatives usually have sufficient training, access to information	3	11	3	4	0

Auction Prices

Asterisk beside price indicates highest bid offered on tractors that were not sold.

YODER & FREY, INC.
Archbold, Ohio
July 8, 1986

MASSEY-FERGUSON TRACTORS

165, 1972 (Rough) 1650
165 diesel, 1970 (Rough) 3400
35, 1960 (Rough) 1700*
35, 1958 (Good) 1900
35, 1959 (Rough) 1500*
35 diesel, 1961 (Fair) 2000*
65, 1964 (Rough) 1525
255 diesel, 1976 (Fair) 5350*
2775 diesel, 1981 (Good) 8250*

DEUTZ TRACTORS

D6006 diesel, (Fair) 3100
D6206 diesel, (Fair) 3100*

INTERNATIONAL HARVESTER TRACTORS

H, 1951 (Fair) 575*
H, 1950 (Fair) 385
H, ldr., 1947 (Rough) 625
M, ldr., 1952 (Rough) 500
M, 1949 (Fair) 900
Sup. C, 1952 (Fair) 700
200, 1956 (Rough) 650
230, 1958 (Fair) 800
300, 1957 (Fair) 750*
300, ldr., ... 1500
350 diesel, 1958 (Fair) 925*
460 diesel, 1961 (Fair) 1250*
560, 1959 (Good) 1700
560, 1961 (Fair) 1400*
574 diesel, 1975 (Good) 3750*
656 Hydro diesel, 1970 (Fair) 2600*
656, 1969 (Fair) 2000
674 diesel, 1975 (Good) 3900*
856 diesel, 1969 (Rough) 3500
966 diesel, 1977 (Good) 6500*
1206 diesel, 1964 (Fair) 2300*
4586 diesel, duals, 1978 (Good) 13,000*

JOHN DEERE TRACTORS

46, (Rough) 310
46, (Fair) 550*
60, 1954 (Rough) 650*
70, (Rough) 400*
520, ldr., 1957 (Fair) 1200
520, 1956 (Rough) 775
620, 1957 (Rough) 950
2010 diesel, 1962 (Rough) 1525
2510, 1964 (Fair) 2575
3010 diesel, 1962 (Fair) 1500
3010 diesel, 1963 (Good) 3200*
3020 diesel, 1971 (Good) 5500*
4430 diesel, 1975 (Fair) 7300
4630 diesel, 1975 (Good) 9250*

OLIVER TRACTORS

88, 1953 (Fair) 850
55, ldr., 1956 (Fair) 1600*
1250, 1970 (Rough) 1200*
1555 diesel, ldr., 1972 (Rough) 2000
1600 diesel, 1964 (Fair) 1700*
1350 diesel, 1967 (Rough) 2500*

WHITE TRACTOR

2-155 diesel, 1978 (Good) 9000*

FORD TRACTORS

8N, 1948 (Fair) 1050*
8N, 1949 (Rough) 800*
8N, 2xpl., 1948 (Good) 1850
9N, 1942 (Fair) 1200
NAA, 1953 (Fair) 1400*
601 Select-O-Speed, 1956 (Fair) 1650
641, ldr., 1955 (Fair) 2250
860, 1957 (Fair) 2250

CASE TRACTORS

430, ldr., ... 1650
930, 1965 (Fair) 1800*
930 LP, 1967 (Rough) 875*
1030 diesel, 1964 (Fair) 2500*
1370 diesel, 1976 (Good) 7600
1370 diesel, 1975 (Fair) 4000
2090 diesel, 1980 (Good) 7250*
2670 diesel, 1975 (Rough) 6250*

DAVID BROWN TRACTOR

990 diesel, 1975 (Fair) 2800*

MASSEY-HARRIS TRACTOR

22, 1945 (Fair) 400*

STEIGER TRACTOR

Panther II diesel, 1982 (Rough) 11,000*

ALLIS-CHALMERS TRACTORS

WD-45, 1953 (Rough) 275
WD-45, 1955 (Fair) 550
WD-45, 1955 (Fair) 875*
170 diesel, ldr., 1969 (Rough) 3200*
190XT diesel, duals, 1967 (Rough) 2600*
200 diesel, 1972 (Fair) 3160
200 diesel, 1972 (Fair) 2900*

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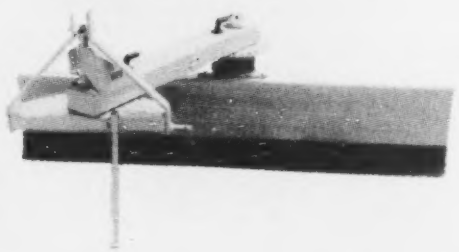

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ROOTHAWG helps to control growth of unwanted brush — Ridding your fields of moisture robbers — reestablishing grass in your brush area.

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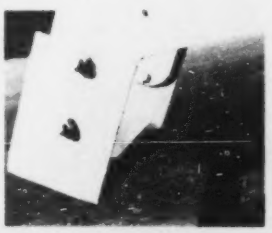
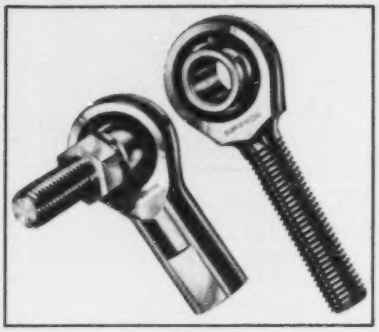


The VASSAR Co.
Box 609
Perkins, OK 74059

Write In (28) on Reply Card

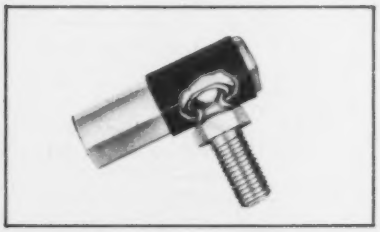
(advertisement)

CONCEPTS IN MOTION TRANSMISSION



High Wear-Resistance Rod Ends

Patented Superior process produces rod ends that provide high wear resistance in demanding applications . . . . at a significant saving. Locks in lubricated raceways of fiberglass reinforced nylon, providing maximum contact with precision hardened steel balls, creating free movement with minimum play. Available in both male and female designs, left and right hand thread styles. Sizes from #10-32 through ¾-16, with and without mounting studs. All units plated and dichromate treated for exceptional corrosion resistance. **Tuthill Corporation, Superior Linkage Division, 2110 Summit Street, New Haven, Indiana 46774.**



Type SPG Ball Joints With Alignment Guide

Type SPG patented ball joint, designed for heavy duty service, has "flat top" alignment guide which makes it easy to align ball stud in vertical position to provide maximum movement in all directions, facilitates torquing of lock nuts. Ball joints swivel in 38° minimum cone. Thread sizes from #10-32 through ½-20. Includes Buna-N rubber dirt shield. Ball cavities packed with Lubriplate. Ball studs case hardened steel. Plated and dichromate treated for exceptional corrosion resistance. **Tuthill Corporation, Superior Linkage Division, 2110 Summit Street, New Haven, Indiana 46774.**

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Today's Tillage

(Continued from page 18)

switched from conventional tillage to ridge-till have cut equipment inventories by 20 to 50 per cent, cut fuel per acre by half, reduced labor prior to harvest by one-half or more, and in many cases, held chemical costs constant or even reduced them.

Here's an example: Fertility level of Joe Farmer's cropland and is moderate to high when he decides to ridge-till. He has all soil tested and, in the last season he uses conventional tillage, plows under recommended maximum amounts of phosphorous and potash. His last conventional crop is planted in the row widths and field patterns he will use for ridges.

At lay-by time, a new ridge building cultivator rolls soil into crop rows to build ridges for next year's planting. Since Joe will ridge all his row crops, he now sells his 4-wheel-drive tractor, moldboard plow, his field cultivator and/or disk harrow.

If he has a sturdy late-model planter, he needs to add ridge-top cleaners to provide a clear path for planter openers. These also divert weed seeds into furrow middles and remove residue so that ridge tops warm quicker for fast germination. Banding herbicide on the rows cuts chemical cost and cultivation removes weeds between rows. Ridges are rebuilt with a second pass. Spot spraying gets weeds not controlled by cultivation or banded herbicide. Starter fertilizer, plus more knifed into soil next to ridges, meets crop needs.

Ridge-till is a form of controlled traffic, where all wheel traffic uses the same paths year after year. This may even require adjustment of combine wheels to match ridge spacing, but it can be worthwhile as some tests show significant yield reductions when combine wheels operate on ridges—whether soil is wet or dry. Random wheel traffic may be partly responsible for increases in soil compaction following a few years of no-till planting without ridges. It's been shown that different sized wheels with equal loads per square inch cause equal compaction in the upper 12 inches of soil. But, axle loads over 5 tons can cause subsoil compaction that isn't relieved by several years of freezing and thawing even without additional heavy loads.

It takes management

Careful planning and attention to management details are required for any successful switch between tillage systems. Example: Paraquat or other burnback herbicide is normally used at no-till planting time. Instead, some farmers apply split applications of pre-emergence herbicides with the first dose four to six weeks before planting and the next at planting time. This often reduces herbicide cost, may provide better control of some weeds, cuts moisture loss to early weed growth and reduces danger of crop damage by herbicides. However, some growers have found that in dry seasons, early weed kill caused the soil surface to dry and bake more than if covered by vegetation.

Agricultural engineers and crop specialists therefore urge farmers to adapt tillage management techniques to specific fields, or even parts of fields, for maximum net return. This includes contouring, strip cropping, terracing and other appropriate erosion control measures, adjusting fertilizer rates to the productive potential of various slopes and field areas, increasing soil organic matter, which generally comes with any form of conservation tillage, and minimizing harmful soil compaction. □

Industry Changes

Arthur C. Fultz, Jr., has been appointed sales manager of **Ingersoll Products Corp.**, Chicago, Ill., manufacturer of agricultural disk blades.

Eric A. Haas has been named sales manager by **Bush Hog Farm Implements Div.**, Selma, Ala., according to Robert O. Moore, vice-president, sales. Previously, Haas was national sales manager for Wil-Rich, Inc.

Toyota Industrial Engine Operations, launched early this year by **Toyota Motor Sales, U.S.A.**, has established an office at 2345 S. Lynhurst Drive, Suite 112, Indianapolis, Ind., telephone: 317-241-7875.

Tom Phillips has been appointed regional sales manager for the Turf Equipment Div. of **Middlesworth Engineering & Mfg., Inc.**, Greentown, Ind.